REMARKS/ARGUMENTS

Claims 1, 5, 7-8, 10-16 and 22-25 are active.

Claim 1 is amended to define the thickness of the barrier layer as described on page 5, lines 22-24 of the application as originally filed where it describes that the barrier layer can be less than 6 nm, inclusive of less than 2 nm. See also, *Eiselstein v. Frank*, 52 F.3d 1035, 1039 (Fed. Cir. 1995) the specification disclosed 45-55% nickel and the supported claims had about 45% to about 50%; and *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570 (Fed. Cir. 1985) wherein the application disclosed examples with a protein content of 25% and 27%, and the supported claims recited a protein content greater than 25%.

The objection to Claim 21 is no longer applicable as the claims has been cancelled.

No new matter is added.

Applicants appreciate the indication that Claim 12 is directed to allowable subject matter. In view of the amendments and discussion submitted in this paper, it is requested that all pending claims be similarly allowed.

The Examiner has maintained the rejections under 35 USC 102(b) based on Arbab (US 5,942,338) or under 35 USC 103(a) combining Arbarb with Coustet.

The claims define that the multilayer substantially retains its properties, after heat treatment with a barrier layer thickness that is in a completely different direction than what is taught by Arbab. Specifically, Arbab clearly teaches that it is not possible to have a stack with thin barrier layer(s) that passes heat treatment: "Too thin a primer layer, e.g. below about 20 Angstroms, results in a lack of protection for the reflective, metallic film from oxidation at high temperature thus rendering the coated article unacceptable for heat treatment and in poor

shear resistance which makes the article unsuitable for long distance shipment or additional thermal processing."See col. 7, lines 66 to col. 8, line 33

The fact that (A) one must select from a large number of variables to choose specific layers, (B) position them in the manner as claimed; and (C) define the thickness of the barrier layer in a range not exceeding 2 nm (20 Angstroms), cannot be sufficient disclosure for an anticipation rejection. Indeed, Arbarb, while suggesting a range of about 20 Angstroms (see col. 8, line 30) actually teaches that thicker layers are more preferred (see col. 8, lines 31-32).

Applicants acknowledge the Examiner's statements in the response to arguments section that as the range suggested by Arbab "below about 20 Angstroms" is a point of overlap with the claimed range at the upper end (2nm). The less than 2 nm is not a point of overlap with Arbab's unambiguous teachings to NOT go below 20 Angstroms. See *In re Kahn* 441 F.3d 977, 985-86 (Fed. Cir. 2006): "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant."

The Arbab invention like the present invention relates to multilayered laminates. According to Arbab, the object is to provide improved scratch resistance (see col. 2, lines 13-18). Arbarb describes a metallic reflective silver layer that can directly contact a zinc oxide layer (see col. 6, lines 50-53) and can include a primer layer composed of Zr, Ta, Nb, Ni, Cr, Cu, Al, Hf, mixtures, etc which is deposited over the substrate far side of the metallic layer (col. 7, lines 46-57) . Arbarb also describes an MDE layer deposited over the primer layer which can include an oxide of zinc and tin (see col. 8, lines 58-63). However, as already explained above, the range of Arbab is directly opposite to that which is claimed and Arbab warns against exceeding the lower limit of 20 Anstroms due to the materially different

properties that would result as apparent to one skilled in the art. In other words, contrary to the Examiner's assertion, Arbaba teaches that the inclusion of less than 20 Anstroms does not expect to produce an acceptable article. As such, a person of ordinary skill in the art following the teachings of Arbaba would not have selected a thickness below 2 nm nor would they have been motivated to utilize such a thickness.

Simply by Arbarb listing a plethora of putative materials that may or may not be included, and indeed, when Arbarb directs one further to other types of compositions and thicknesses different from those claimed, Arbarb's generic and meaningless disclosure does not put the composition defined in the present claims in the possession of the public. Arbarb simply has not arranged the elements of the claims as the law requires.

Thus, Arbarb does not describe the claimed composition with any specificity such that these limitations "are sufficiently limited or well delineated" to place the claimed composition in the possession of the public. See MPEP §2131.02.

One may look to the preferred embodiments to determine which compositions can be anticipated. *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962). The generic disclosure defined in Arbarb that the Examiner alleges embraces the claimed subject matter embraces a plethora of compositions and arrangements taking into consideration all the optional materials, combinations of materials and thicknesses (see just col. 7-8 of Arbarb as an example).

The breadth of the scope of articles embraced by Arbarb is important to the analysis of whether the artisan would envision any one specific, unnamed composition. In *In re Petering*, the prior art disclosed a generic chemical formula that possessed a generic class consisting of about 20 compounds. This decision represents the minimum threshold (one in 20) to hold that a reference "described" the claimed compound or composition such that one

of ordinary skill in the art is able to "at once envisage" the compound or composition. As such, when the generic class consists of 20 or less the reference is generally taken to anticipate the claims. However, where the generic class exceeds 20, this should not apply to anticipation rejection.

As already explained above, Arbab provides a series of possibilities for selecting various variables and when one of skill in the art took into account the full scope of Arbab, there is nothing which would lead to the presently claimed composition. Applying the multitude of possible components, layers and thicknesses that are suggested in Arbab yields potentially thousands of possible compositions. Thus, when one considers Arbab as a whole, it is seen that the number of theoretical substitutions for the various layers, their compositions and thicknesses is staggeringly high. Even with the teachings of Arbab, there is no teaching which would have lead one of skill in the art to select that which is claimed.

Even post KSR, for a claimed invention to be obvious, the possible modifications of the prior art must be finite. *See*, *Rolls-Royce PLC v. United Technologies Corp.*, 95 USPQ2d 1097 (Fed. Cir. 2010). As stated by the Federal Circuit:

> ***To determine that an invention would have been obvious*** to try on the basis of the record before the time of invention, ***this court has clarified***, with respect to inventions requiring selection of a species from a disclosed genus, ***that the possible approaches and selection to solve the problem must be*** "known and ***finite.***" *See Abbott*, 544 F.3d at 1351 (holding as conditions in which "obvious to try" may negate patentability, "the problem is known, the possible approaches to solving the problem are known and finite, and the solution is predictable through use of a known option"). . . . In this case, the broad selection of choices for further investigation available to a person of ordinary skill included any degree of sweep. *See Takeda*, 492 F.3d at 1359 (holding the invention not obvious to try because the prior art disclosed a broad selection of compounds that an ordinarily skilled artisan could have selected for further investigation).

Rolls-Royce, at 1107, emphasis added.

This case is like that in Rolls-Royce in that there are countless possible theoretical modifications of the prior art with no teaching that any one modification should be selected.

Arbab does not describe the claimed composition with any specificity to select the classes of those layers, their compositions and thicknesses in the case of the barrier layer such that they "are sufficiently limited or well delineated" to place the claimed method in the possession of the public, see, e.g., MPEP §2131.02.

Accordingly, the Arbarb disclosure does not anticipate the claims as presented in this paper.

Further, the Arbarb disclosure would not have rendered the present claims obvious. Indeed, Arbard merely suggests the possibility of Zr amongst other materials and combinations and alloys in col. 7 and Arbarb clearly has its most preferred thicknesses, when subject to high temperature processing, to exceed 20 Angstroms (2 nm) including 22 and 24 Angstroms (see again, col. 8, liens 31-32).

As noted in the specification on page 4, lines 13-16 the barrier layer composed of zirconium can be below or above the functional layer and as discussed in the specification on page 1, third paragraph, the basic arrangement of the claims was known but with other metals. Indeed, the specification on page 3, third paragraph, explains that the prior multi-layers had poor performance and were unsatisfactory. The specification provides a series of examples and comparative examples demonstrating the improved effect when zirconium is used as the barrier layer in conjunction with a ZnO based dielectric layer and a silver functional metal layer.

In particular, comparative Example 1 uses a nickel chromium barrier layer with the tin oxide dielectric layer where comparative Example 2 replaces the barrier layer with zirconium and as discussed on page 10 the replacement improves color retention, transmission and resistance. Example 1 employs a zirconium barrier and a ZnO dielectric layer with a final tin oxide layer, where Example 2 replaces that final tin oxide layer with a silicone nitride layer. Comparative Examples 1a and 2a vary the thickness but are generally the same as

comparative Examples 1 and comparative Example 2, which have the same effect in terms of light transmission and other properties (see page 13 of the application). Example 3 and comparative Example 3 (on pages 14-15 of the application) compare the zirconium barrier layer and nickel chromium and the table on page 15 (table 8) demonstrates better reflection and more adept at withstanding heat treatment.

The rejections under 35 USC 103(a) combining Arbab and Coustet is insufficient as Arbab does not describe or suggest all of the claim limitations as alleged in the rejection and Coustet does not remedy these deficiencies.

Reconsideration and withdrawal of all rejections is requested.

A Notice of Allowance is requested.

Respectfully submitted,

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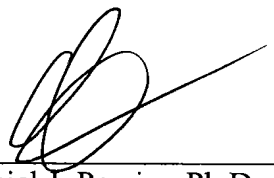

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